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ABSTRACT

The play activity of 20 children was videotaped and annotated. The children were questioned about their play and artifacts of the play were collected. Data revealed a qualitative organization similar to a hierarchy. This structure reflected themes, domains of literate behavior, functions, and skills. A vignette of an episode of spontaneous play is offered as an illustration of the process used to analyze the play. It is concluded that: (1) literate behavior involves the union of domains of behavior, function, skill, and knowledge; (2) spontaneous play with hollow blocks provides children with opportunities to engage in literate behaviors; and (3) play contexts influence children's specific literate behaviors. The conclusion indicates that hollow blocks should be established as part of the preschool curriculum. A bibliography of 15 items, and copies of the children's artifacts made during spontaneous play, are included. (BC)

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# Naturalistic study of the literate behaviors of 4-year-old children occurring during spontaneous play in the hollow block area of a preschool classroom

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presented at the Eastern Educational Research Association Annual Conference in Boston, MA, February 14, 1991

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## Introduction to Study

A construction in the hollow block area, which has been left up overnight, is the first thing the teacher sees when she arrives in the morning. The building has several levels and has six or seven sides. Many pieces of paper have been taped onto the sides of this building. Some of the papers have actual words written on them in child-like print, while others have lines and scribbles in a multitude of colors. As the first children arrive, they run over to hollow blocks with great excitement. "It's a castle!" says Ben. "We made it!" said Danny. "The sign says 'This is our castle. Don't knock it down.'" says Ben. "Yea," says Danny.

What is happening here? What does playing in hollow blocks have to do with the writing and reading of signs? What do hollow blocks have to do with literacy? Are the children learning and playing at the same time? Is play educational? These questions are often asked and debated among teachers, administrators, parents, researchers and other practitioners in the field of early childhood education (Johnson, Christie & Yawkey, 1987).

There is general consensus among researchers in the field of early childhood education that play is important for development and learning. Bruner (1985) stated that "Play is the business of childhood." (p. 604). Piaget described play as it relates to cognitive development. He theorized the beginning of representational thought as occurring during symbolic play, which takes place in children around ages 2 to 7 years (Piaget, 1962).

Vygotsky (1978) concluded that "... through play the child achieves a functional definition of concepts of objects, and words become parts of a thing." (p. 99). Reading and writing start much earlier than previously suspected. The preschool years are a very active time for learning about oral and written language. Research on play has established that literacy behaviors occur frequently in play (Isenberg & Jacob, 1983; Roskos, 1988). "First attempts to read and write often occur during play." (Rogers & Sawyers, 1988, p. 63). While most young children cannot read and write in the conventional sense they are developing toward these proficiencies (Hiebert, 1988; Holdaway, 1979). Studies have demonstrated similarity in the development of the use of symbols in language and pretend play (Garvey, 1977; Pellegrini, 1984). All of these concepts - the use of symbols in language and pretend play, attempts at reading and writing, and other literacy behaviors that occur in play - are involved in children's emerging literacy.

Currently there is little research involving the study of literate behavior during the spontaneous play of preschool children in the hollow block area of a classroom.

## Procedures

The purpose of this naturalistic study was to describe the literate behaviors that occurred during the spontaneous play of 4-year-old children in a preschool setting, specifically in the hollow block play center. The question being asked was: What literate behaviors, including emergent literacy behaviors and reading-and-writing-like acts, occur during the spontaneous play in hollow blocks in this sample population of 4-year-olds?

The preschool selected for the study was located in a church in a suburban area of a large city. The sample population consisted of the 20 children, 11 boys and 9 girls, who were enrolled in the child care center and were placed in the 4-year-old classroom at the start of the school year. At the time of the study the ages of the students ranged from 4.4 (years. months) to 5.4 (mean age = 4.8). Nineteen children were Caucasian and one was African American. All were from middle and upper middle socioeconomic status families and attended the program on a full time basis.

Three data collection strategies were used to obtain varying perspectives on the literate behaviors of the children during their play activity:

1. Play activity, as it occurred spontaneously in the block area, was videotaped, serving as a form of passive participant observation (Spradley, 1979). Filming was accompanied by field notes.

2. Audio- and video-taped interviews were conducted with groups, pairs and individual children for whom consent was obtained. Children were questioned by the researcher or the teacher about what they were doing during their play in hollow blocks in an attempt to verify and extend the researchers understanding of the children's activities.

3. Some of the artifacts produced during the play in the hollow block area were collected. As instamatic camera and 35 millimeter camera were used to photograph the artifacts and some of the block structures.

Analysis of the data began with a transcription of the classroom events that occurred during the videotaping and interviews. The written transcripts, artifacts, photographs of artifacts and field notes were analyzed as part of the triangulation process.

The data were analyzed in three phases. First, Holdaway's (1979), Goodman's (1986), and Neuman and Roskos' (1988) categories were used as a beginning framework in conducting a domain analysis (Spradley, 1979) to sort and categorize the literate behaviors. Two indicators were used in establishing boundaries segmenting each literate behavior: (a) shifts in the focus of the play activity (e.g. switching from pretending one was writing a letter to pretending one was driving a boat), and (b) shifts in interaction between players (e.g. a player starts talking with someone else) (Neuman & Roskos, 1988).

Second, the literate behaviors were analyzed in terms of their function using Neuman and Roskos' (1988) five categories. Function is defined as processes indicating children's understanding of reading- and writing-like behavior. Third, functions of literate behaviors were counted leading to a quantitative review.

Transcripts of the data and video- and audio-tapes, were reread and reviewed. The categories of literate behaviors were the end result of this procedure.

## Findings

Data from the study revealed a qualitative organization similar to a hierarchy. This structure is depicted in Figure 1 and reflected themes, domains of literate behavior, functions and skills. The domains of literate behavior were sub-classified into two types of knowledge - observed knowledge and inferred knowledge.

A vignette from the descriptive record illustrates the analysis process. It is analyzed into its component parts. Viewed as a whole, this episode taken from the spontaneous play of four-year-old children in hollow blocks provides multi-dimensional information about the emerging literacy of this population.

The children have been building a zoo with Miss Maggie's help. Some of the children have been building cages for the animals while others have been setting up stands from which to sell food, balloons and an entrance gate. Collin made two signs for his hot dog stand. One indicates that he is selling free hot dogs (artifact #18) and the other indicates that he is selling free ice cream. Bonnie and Lisa have been building cages. Cathy made a sign of her own that had "BALLOON STAND" and her name printed on it. She taped it on Collin's stand between his two signs. When Collin returned to his stand he saw the sign and said in an exasperated voice, "That isn miiine [that isn't mine]. Thas, Ah'm sellin hot dogs not balloons." With that, he pushed Cathy's sign away and Cathy took her sign and taped it to the front of the block storage area in front of a pile of balloons.

Nicole is operating the entrance gate and Stuart, who had been building cages, has just joined Collin at his stand underneath a beach umbrella. Collin leaves his stand to get Stuart a marker so that he can write on tickets as he has been doing. Collin tells Stuart, "Here's duh uhm unbwella [umbrella]. Ah'll be there." as he walks toward the art supply area. As he walks past the entrance to the zoo Nicole asks him, "Are you here tuh get some tickets or what?" Collin doesn't hear her question because he is looking over his shoulder talking to Stuart. "But den you know what" Ah'll get you uh li'l mawkuh [I'll get you a little marker]." Nicole stands at her desk and announces, "Eight thirty tuh open" and as she does Ellen walks up to her, hands her a balloon and says, "You cuh ha this [you can have this.]" "Whuh [what]?" says Nicole. Collin is back at the stand and gives Stuart a marker. "Here, Stuart you kin wite up some, some uh these [you can write up some of these]," referring to tickets. Meanwhile, Nicole is trying to straighten Ellen out as to who does what. "I doan nee a bawoon [I don't need a balloon]. I git tickets out." Nicole puts the balloon back into Ellen's shopping cart that has a sign on the handle. The sign has three lines of printed letters on one side and two lines of letters on the other. It appears as follows:

| | | |
|---|---|---|
| (front) | ELnMNRi | (back) ntFEn Z B MOl |
| | ELiZABETH | HiZB |
| | l] B | TEBAZiLE |

Nicole sits down at her desk and in a businesslike manner begins to make letters and marks on tickets (business cards) using a marker. Cathy uses markers to write and draw on a balloon at a table near the hollow block area. A teacher from another room walks into the room, stops, and looks around the hollow block area. Nicole informs her that it's a zoo. "A zoo?" the teacher responds. Nicole turns and points to the cages behind her, "Polar bear" she states. Nicole then points to the hot dog stand and says "Hot dogs, and this is how ya come in." Nicole returns to writing on the tickets while the

teacher walks over to the stand and reads the sign aloud. "Hot dog stand." Collin looks up from writing letters on tickets [artifacts #25 a-j] and says proudly "You!" Stuart quickly adds, "Tickets, if ya wanna get something." Nicole, ever listening to conversations, interjects from across the rug, "Yea, cuz ya gotta get some tickets from me." "Okay," says the teacher. She walks over and stands in front of Nicole's desk and Nicole gives her a ticket that has printed letters on it [artifacts #23 a-f]. "What's this for?" the teacher asks. "Thas [that's] your ticket," Nicole tells her. "For what?" the teacher asks. Stuart interjects this time and informs her, "To go in the zoo an look aroun [around]." The teacher reflects on this a moment and then asks "Well, what do I have to do?" Stuart, the eager tour guide, looks up from making marks on tickets and says, "Animals, animal in dere [there]." "See? says Nicole, waving her arm to show the cages. Stuart continues, "An dese aw fwee [and these are free]. An den you go, wook at duh animals, and den look awoun [and then you go, look at the animals, and then look around]." He returns to writing on tickets using a marker. Collin looks up from his writing and explains further, "Duh ice cream, and um, duh, duh the, um hot dogs and um ice cweam are fwee if ya wan [the ice cream and um, hot dogs and um ice cream are free if you want]." "Oh good," the teacher exclaims. "Look awoun [look around]," Stuart says invitingly. The teacher walks slowly through the zoo looking at the cages and animals. "And I'll get free hot dogs and free ice cream?" she checks. "Yes," Stuart states benevolently.

The context in which the behaviors occurred was defined by the zoo theme. Writing and writing-like behaviors, a domain of literate behavior, were abundant in this portion of the data. The children printed letters, wrote words, made marks, lines and squiggles on tickets, paper and balloons. Some of the written words were produced from memory and are therefore called sight words. Some were written from oral dictation of the letters, some were copied and others were produced by the process of invented spelling. Much of the writing and writing-like behavior in this example was performed in order for the children to appear grown up; to look as if one was actually doing the job as an adult would do it. Writing did not occur in isolation. Making marks and letters on tickets could have served an exploratory function if it was not for the fact that the tickets were then given to people visiting the zoo. In these instances paper handling interacted with writing and provided

information leading to the conclusion that these activities were executed for the authenticating function.

Oral language in the episode provided further evidence in support of the findings. Nicole told the visiting teacher that the ticket was "To go in the zoo an look aroun,". This oral language about materials related to literate behavior was interactional in function in that it communicated information to the teacher. It also showed that Nicole's writing on the ticket was not explorational, it was not for herself because she gave it away, it was not to communicate to others because she did that verbally, and she did not seem to gain information from the writing itself. Her writing-like behavior was performed because it fulfilled her requirements regarding how an adult ticket salesperson at the zoo would behave. Nicole's writing fulfilled the authenticating function.

Writing words to create signs for the zoo communicated information about the purpose of the stands and the prices of the goods for sale. Knowledge inferred from writing behaviors indicated awareness that: (a) A sign is a type of literate material, (b) Letters have some relationship to the sounds of speech, (c) Letters are printed close together from left to right, (d) Print begins at the top of the page, (e) Print can be duplicated, (f) Scribbles are similar to print, (g) Writing can be part of an occupation, and (h) Writing serves the function of communicating information.

While these cognitions alone are significant, additional understandings were inferred when Cathy tried to tape her sign up with Collin's. This incident of paper handling showed the use of literate materials in conventional ways and inferred the understanding that a specific type of literate material is used in a specific way. This inferred knowledge was extended further when Collin stated that he was selling hot dogs, not balloons, and Cathy moved her sign over to where the balloons were. Collin's statement indicated knowledge that: (a) Literate materials, namely signs, communicate information; (b) print carries meaning; and in the domain of reading, (c) recognition of sight words. Moving her sign implied a beginning awareness, for Cathy, that signs are representational. Throughout these scenes and the entire descriptive record the combination of behaviors and functions intimated more sophisticated knowledge than would have been indicated by looking at the behaviors separately.

In summary the findings exhibited the importance of context, in the interpretation of literate behavior, six domains of literate behaviors (paper handling, building structures involved in literate behavior, writing, reading, oral language and linguistic exploration), observed and inferred knowledge about literate behavior, and five categories of functions of literate behavior.

## Conclusions and Interpretations

Consideration of the findings led to six conclusions responding to the research question: What literate behaviors, including emergent literacy behaviors and reading-and writing-like acts, occur during the spontaneous play in hollow blocks in this sample population of 4-year olds? The conclusions explain and extend the literate behaviors that occurred during the study, and are stated below.

**Literate behavior involved the union of the various domains of behaviors, functions, skills and knowledge. Although these components can be considered individually, they converge and overlap in the performance of literate behaviors.**

**Spontaneous play with hollow blocks provides children with opportunities to engage in literate behaviors.**

**The functions of literate behaviors emphasized the use of literate material for interactional purposes.**

**The preschool environment in this study supported literate behavior.**

**Play contexts or themes influence the specific literate behaviors in which children engaged.**

**The domains of literate behavior represented in this study indicate the variety of factors - functions, skills and knowledge - that are part of the process of emerging literacy.**

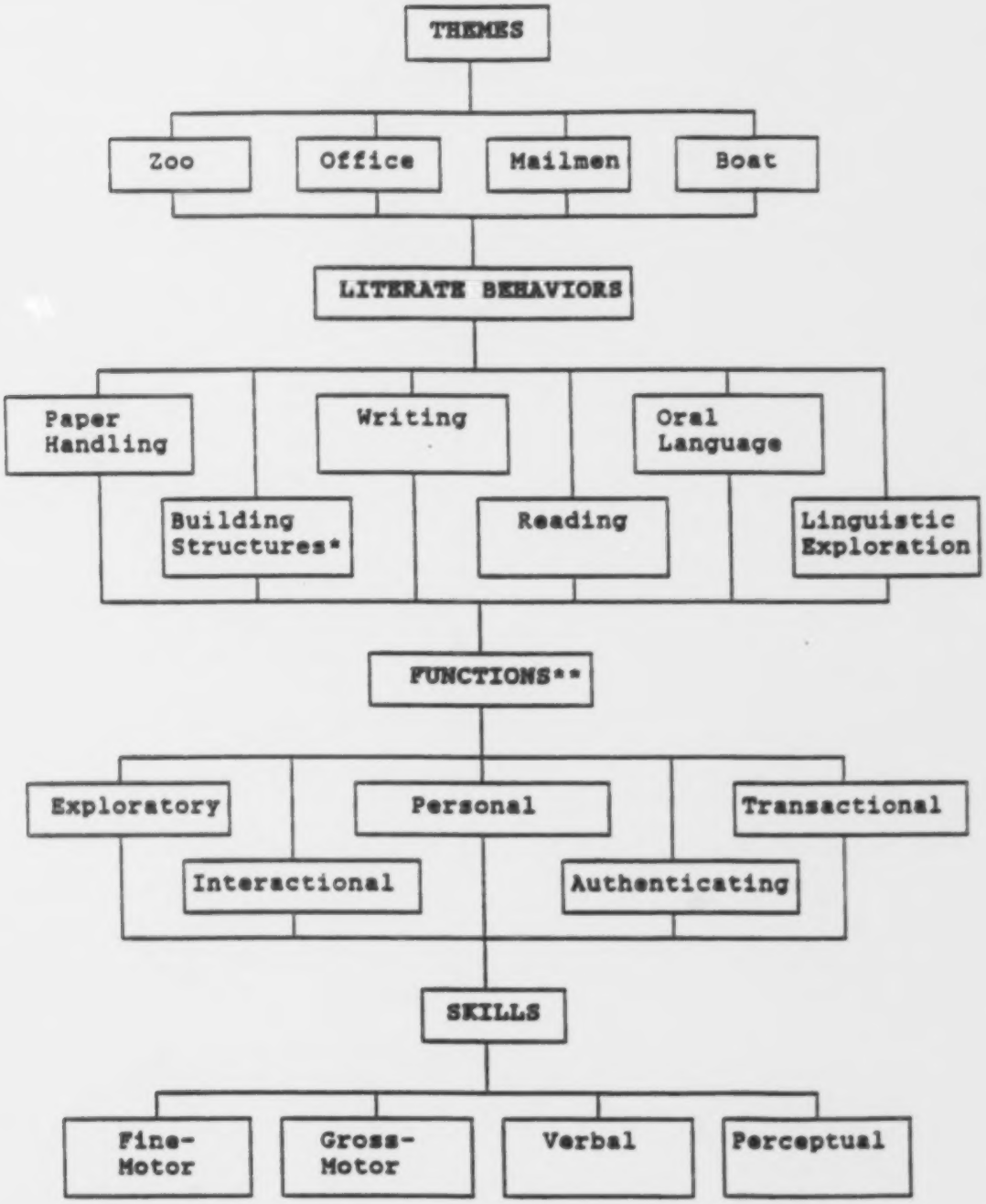
This study provides support for the idea that young children engage in literate behaviors during spontaneous play with hollow blocks. In terms of developing curriculum and instruction for young children, the conclusions indicate that hollow blocks should be established as part of the preschool curriculum and classroom. Included within the hollow block portion of curriculum should be selections of literate materials to be supplied to the hollow block area.

The current study also provides direction for additional studies of young children's emerging literacy, and factors effecting their literacy development including the effect of the "play" condition and role of the teacher during play. Perhaps Bruner (1983) best sums up the conclusions and implications of this study. He suggests that play is "a hot house for trying out ways of combining thought and language and fantasy. And by the same token, there is much that one can do to help the process of growth. But do not overheat the hot house!" (Bruner, 1983, p. 69).

Figures

and

Artifacts




*Building Structures involved in literate behaviors
**Taken from Neuman and Roskos (1988b)

**Figure 1**
**Organization of Data**

Artifact # 18

Artifacts # 25 a, b, c, d

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Artifacts # 25 e, f, g, h

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Artifacts # 25 i, j

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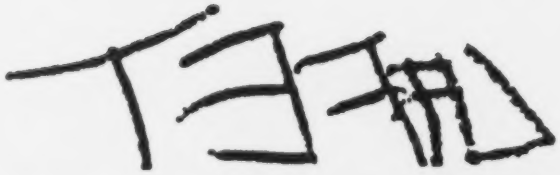
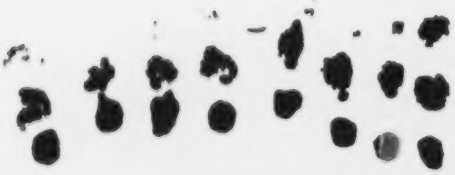
Artifacts # 23 a, b, c, d





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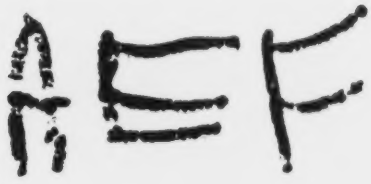

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